

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A tolerance ring comprising a band of resilient material having:

corrugated protrusions all extending in a common radial direction away from an unformed annular portion of the band, wherein the corrugated protrusions form a protrusions load bearing area that is smaller than an unformed annular portion load bearing area of the unformed annular portion that is configured to distribute a load from the protrusions load bearing area over a portion of a first component that is to be engaged with the unformed annular portion; and

a guide portion contiguous with, and extending axially from the unformed annular portion of the band, wherein the guide portion comprises at least one guide surface inclined relative to the axis of the band in the radial direction of the corrugated protrusions such that a free end of the guide portion defines an opening of a size other than that defined by the unformed annular portion of the band to facilitate alignment between the unformed annular portion and the first component when the first component is slid against the unformed annular region.

2. (Original) A tolerance ring according to claim 1, wherein the angle of inclination of the at least one guide surface relative to said axis is constant along the length of the guide surface.

3. (Previously presented) A tolerance ring according to claim 1, wherein the guide portion extends from the whole circumference of the band.

4. (Currently amended) An apparatus comprising:

a housing having a bore therein,

a shaft in the bore, and

a tolerance ring according to any one of the preceding claims in which all of the protrusions extend radially outwards from the unformed annular portion of the band to engage the bore of the housing, the shaft comprising the first component and being received in the band and engaging the unformed annular portion of the band, and the protrusions engaging the wall of the bore.

5. (Previously provisionally withdrawn) An apparatus comprising: a housing having a bore therein, a shaft in the bore, and a tolerance ring according to any one of the preceding claims in which the protrusions extend radially inwards from the band, the protrusions engaging the shaft and the band engaging the walls of the bore.

6. (Currently amended) A method of assembling an apparatus comprising: inserting a tolerance ring according to claim 1 in a bore in a housing, all of the protrusions of the tolerance ring extending radially outward from the unformed annular portion of the band, the protrusions engaging the wall of the bore when the tolerance ring is inserted into the bore;

inserting an end of a shaft into the guide portion of the tolerance ring, wherein the shaft comprises the first component; and

moving the shaft along the axis of the band into the band, so that the unformed annular portion of the band engages the shaft.

7. (Previously provisionally withdrawn) A method of assembling an apparatus, comprising: mounting a tolerance ring according to claim 1 on a shaft, the protrusion of the tolerance ring extending radially inward to engage the shaft ; inserting the guide portion of the tolerance ring into a bore in a housing; and moving the shaft and tolerance ring axially into the bore such that the band engages the wall of the bore.

8. (Previously presented) A tolerance ring according to claim 2, wherein the guide portion extends from the whole circumference of the band.

9. (Currently amended) A method of assembling an apparatus comprising:

inserting a tolerance ring according to claim 2 in a bore in a housing, all of the protrusions of the tolerance ring extending radially outward from the unformed annular portion of the band, the protrusions engaging the wall of the bore when the tolerance ring is inserted into the bore;

inserting an end of a shaft into the guide portion of the tolerance ring, wherein the shaft comprises the first component; and

moving the shaft along the axis of the band into the band, so that the unformed annular portion of the band engages the shaft.

10. (Currently amended) A method of assembling an apparatus comprising:

inserting a tolerance ring according to claim 3 in a bore in a housing, all of the protrusions of the tolerance ring extending radially outward from the unformed annular portion of the band, the protrusions engaging the wall of the bore when the tolerance ring is inserted into the bore;

inserting an end of a shaft into the guide portion of the tolerance ring, wherein the shaft comprises the first component; and

moving the shaft along the axis of the band into the band, so that the unformed annular portion of the band engages the shaft.

11. (Previously provisionally withdrawn) A method of assembling an apparatus, comprising: mounting a tolerance ring according to claim 2 on a shaft, the protrusion of the tolerance ring extending radially inward to engage the shaft; inserting the guide portion of the tolerance ring into a bore in a housing; and moving the shaft and tolerance ring axially into the bore such that the band engages the wall of the bore.

12. (Previously provisionally withdrawn) A method of assembling an apparatus, comprising: mounting a tolerance ring according to claim 3 on a shaft, the protrusion of the tolerance ring extending radially inward to engage the shaft; inserting the guide portion of the tolerance ring

into a bore in a housing; and moving the shaft and tolerance ring axially into the bore such that the band engages the wall of the bore.

13. (New) The tolerance ring of claim 1, wherein the guide portion is sufficiently smooth to prevent the production of particles when the guide portion slides against the first component.

14. (New) The tolerance ring of claim 1, wherein the unformed annular portion load bearing area is sufficiently sized to prevent torque ripple.

15. (New) The tolerance ring of claim 1, wherein the unformed annular portion engages with a bearing and all of the protrusion engage with a wall of a bore in movable arm of a computer disk drive, wherein the movable arm is formed of a material that is softer than the bearing.

16. (New) The tolerance ring of claim 1, wherein the band is formed from a strip of resilient material curved into a substantially annular shape with a gap between ends of the strip.

17. (New) A method of assembly comprising:
inserting a tolerance ring into a bore in a housing, wherein the tolerance ring comprises corrugated protrusions, all of which extend radially outward from an unformed annular portion of the tolerance ring, wherein the corrugated protrusions engage a wall of the bore;

after inserting the tolerance ring into the bore, inserting an end of a shaft into a guide portion of the tolerance ring, wherein the guide portion extends axially from the unformed annular portion at an end of the tolerance ring, wherein the guide portion comprises at least one guide surface inclined relative to the axis of the band in the radial direction of the corrugated protrusions such that a free end of the guide portion defines an opening of a size greater than that defined by the unformed annular portion of the tolerance ring; and

moving the shaft along the axis of the tolerance ring into the tolerance ring, so that the unformed annular portion of the band engages the shaft.

18. (New) The method of Claim 17, wherein the housing comprises an actuator arm of a computer disk drive.

19. (New) The method of Claim 17, wherein the shaft comprises a bearing for an actuator arm of a computer disk drive.

20. (New) The method of Claim 17, wherein the wall of the bore is formed of a material that is softer than a resilient material that forms the tolerance ring.